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AMPHIPODA FROM FLORIDA AND THE WEST INDIES

BY CLARENCE R. SHOEMAKER

This paper is based upon specimens which have been collected from time to time in Florida, for The American Museum of Natural History, by Dr. F. E. Lutz, Mr. Wm. Wheeler, Dr. W. G. Van Name, and Mr. A. J. Mutchler; in Cuba by Mr. Barnum Brown; in Dominica, West Indies, by Dr. F. E. Lutz, and Dr. R. W. Miner; in Martinique, Barbados, and Trinidad by Mr. P. B. Whelpley; and in British Guiana by Dr. F. E. Lutz. One of the specimens of *Leucothoe spinicarpa* was taken by the United States Fisheries steamer 'Albatross' in the Gulf of Mexico.

The collection is represented by ten families, fourteen genera, one of which is new to science, and seventeen species, five of which are new to science. Any extension of knowledge of the little-known amphipod fauna of the West Indies is very acceptable and this collection, though small, contains several important additions.

GAMMARIDEA

Lysianassidæ

Lysianopsis alba Holmes

Figure 1

Lysianopsis alba HOLMES, 1903, Amer. Naturalist, XXXVII, p. 276; 1905, Bull. Bureau of Fisheries for 1904, XXIV, p. 475, Fig.

TYPE LOCALITY.—Woods Hole, Mass.

DISTRIBUTION.—Southern New England to Porto Rico and the Tortugas.

SPECIMENS COLLECTED.—One; off Key Largo, Florida, May, 1904, Wm. Wheeler.

As I have pointed out before, this species has been confused with *Lysianassa cubensis* (Stebbing) to which it bears a very close superficial resemblance. The principal distinguishing characters of the two species lie in the mouth-parts and the second gnathopods. The molar of the mandible is low and oblique with the posterior end produced into a rough spinulose process; spine-row with four spines. Maxilla 1 with inner plate long and tapering end bearing two long apical setæ; outer plate with the very obliquely truncate and bearing eleven serrate spine-teeth. Maxilla 2 with inner plate narrow end pointed and having a row of spines on upper third of inner margin; outer plate slightly longer than

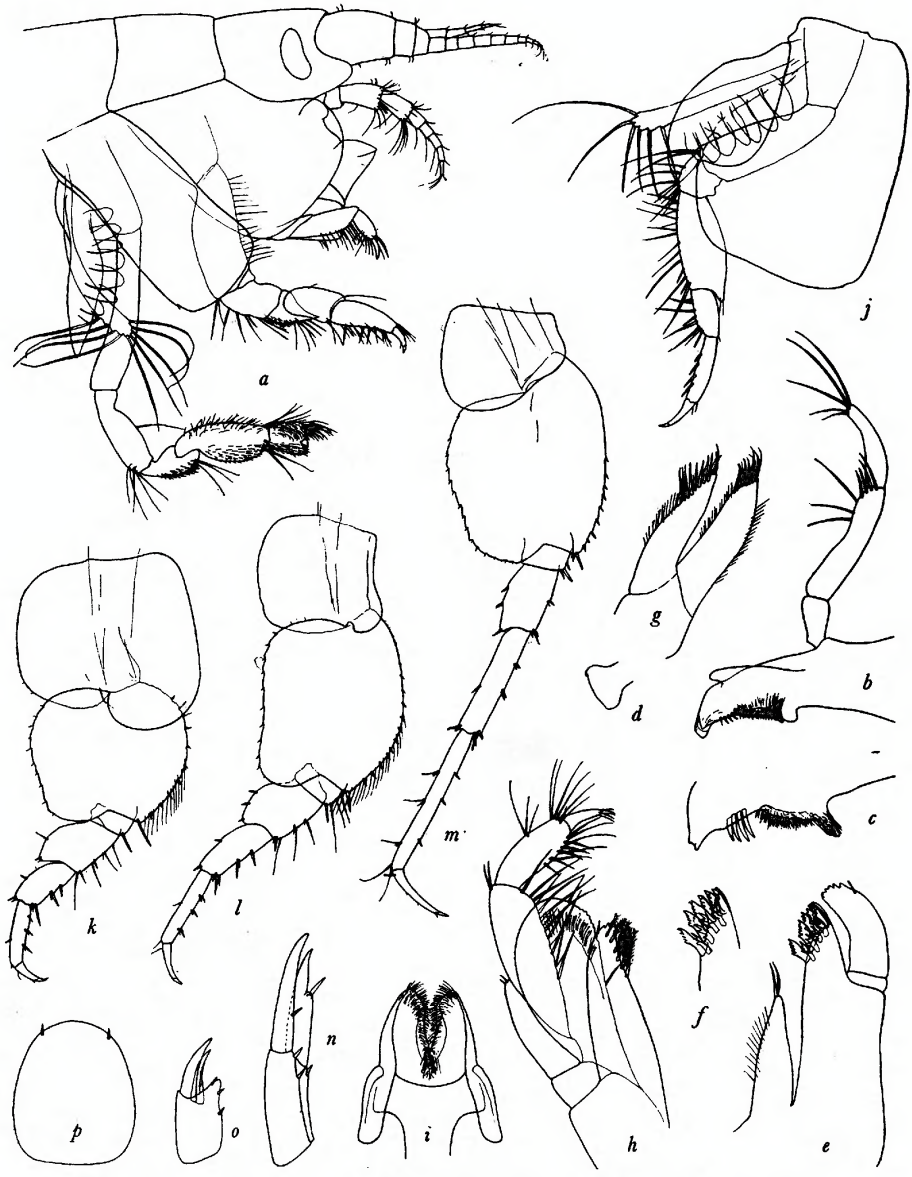


Fig. 1. *Lysianopsis alba* Holmes, drawn from a male from the type lot.

a, the anterior end of the animal; *b*, mandible; *c*, molar and spine-row from a Tortugas specimen; *d*, cutting-edge of mandible; *e*, maxilla 1; *f*, end of outer plate of maxilla 1; *g*, maxilla 2; *h*, maxilliped; *i*, lower lip; *j*, peræopod 2; *k*, peræopod 3; *l*, peræopod 4; *m*, peræopod 5; *n*, uropod 2; *o*, uropod 3; *p*, telson.

inner with a row of curved spines on the obliquely truncate end. Maxillipeds with inner plate narrowing distally and bearing three apical teeth; outer plate broadly oval with upper part of inside edge somewhat crenulate, but without teeth. Lower lip with lobes obliquely truncate; mandibular processes long and blunt.

Ampeliscidæ

Ampelisca holmesii Pearse

Ampelisca holmesii PEARSE, 1908, Proc. U. S. Nat. Mus., XXXIV, No. 1594, p. 27, Fig. 1.

TYPE LOCALITY.—Ferguson's Pass, Oyster Bay, Florida.

DISTRIBUTION.—There are in the collection of the U. S. National Museum specimens from Rhode Island; Connecticut; Beaufort, North Carolina; Key West, Florida; and Sarasota Bay, Florida.

SPECIMENS COLLECTED.—Twelve; off Key Largo, Florida, May, 1904, Wm. Wheeler.

Ampelisca spinipes Boeck

Ampelisca spinipes BOECK, 1861, Forh. Skand. Naturf., Møde VIII, p. 653. SCHELLENBERG, 1925, Meeresfauna Westafrikas, III, Lief. 4, p. 128. STEPHENSEN, 1925, 'Danish Ingolf-Exped.,' III, pt. 9, Crustacea Malacostraca. VI (Amphipoda. 2), p. 146.

TYPE LOCALITY.—West coast of Norway.

DISTRIBUTION.—Coast of Norway north to Lofoten Islands; North Sea; France; Gulf of St. Lawrence; New England coast; and Gorée, Senegal.

SPECIMENS COLLECTED.—One; off Key Largo, Florida, May, 1904, Wm. Wheeler.

This is the first record of the occurrence of this species in Florida.

Ampelisca schellenbergi, new species[1]

Figure 2

TYPE LOCALITY.—'Albatross' station 2369–2374, 29° 18′ N., 85° 32′ W., Gulf of Mexico, 25 fathoms, February 7, 1885. Type in the U. S. National Museum; Cat. No. 65434.

DISTRIBUTION.—Off Apalachicola and Tampa, Florida, taken by the 'Albatross'; off Charlotte Harbor and east Bahia Honda Bay, Florida, taken by the 'Fish Hawk'; Tortugas, Florida, taken by Dr. W. L. Schmitt; off Yucatan, taken by the 'Albatross.'

SPECIMENS COLLECTED.—One; off Key Largo, Florida, May, 1904, Wm. Wheeler.

DESCRIPTION OF MALE.—The upper lateral front of head slightly concave, lower lateral front oblique and below the eye convex; lower eye situated slightly below the lateral angle. Antenna 1 reaching very little beyond peduncle of antenna 2; flagellum has about sixteen joints. Antenna 2: fifth joint of peduncle a little over two-

[1]Named in honor of Dr A Schellenberg, the eminent German carcinologist.

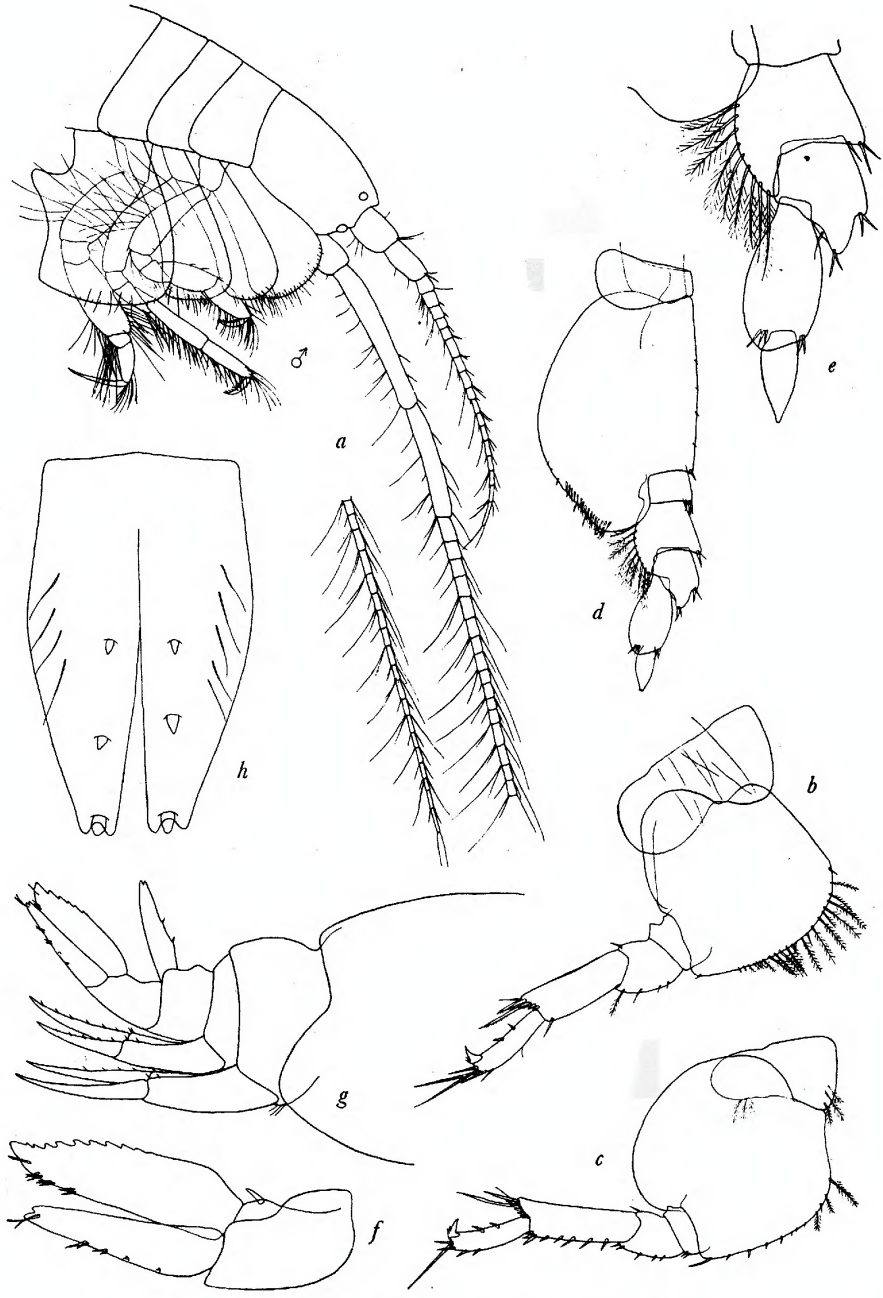


Fig. 2. *Ampelisca schellenbergi*, new species, male.

a, anterior half of animal; *b*, peræopod 3; *c*, peræopod 4; *d*, peræopod 5; *e*, distal end of peræopod 5, much enlarged; *f*, uropod 3; *g*, posterior end of animal; *h*, telson.

thirds the length of the fourth; flagellum composed of about thirty-five joints. Side-plate 1 considerably expanded below, front margin slightly concave above, lower margin broadly rounding. Gnathopods 1 and 2 and peræopods 1 and 2 normal. Peræopod 3: second joint with hind margin very broadly lobed; fifth joint much stouter than sixth and bearing an oblique row of stout spines on lower hind margin; seventh joint with two backward-pointing teeth on lower margin. Peræopod 4: second joint with hind margin very broadly and evenly lobed; fifth joint much stouter than sixth, bearing an oblique row of stout spines on lower hind margin, and a row of short spines on front margin; seventh joint with two backward-pointing spines on lower margin. Peræopod 5: second joint with lower posterior margin oblique and lower margin evenly and rather narrowly lobed; fourth joint, lower hind margin produced downward into a narrow lobe as deep as the hind margin of the fifth joint; fifth joint with front margin much deeper than hind margin and bearing a very pronounced notch and two spines just below center; sixth joint much broader than usual with front and hind margins convex; seventh joint stout, converging to a blunt point. Pleon segment 3: posterolateral corner evenly rounding and lateral margin slightly convex. Pleon segment 4 bearing saddle-shaped dorsal depression. Uropod 3: outer ramus noticeably shorter than inner, distally notched and bearing a few spinules on outer margin and two near the apex; inner ramus much broader than outer, bearing a series of coarse teeth on the distal half of inner margin and a few spinules on distal portion of outer margin. Telson: apices of lobes notched and each notch bearing a short blunt spine; two short, blunt spines and a few slender setæ on upper surface of each lobe.

LENGTH.—11 mm.

Phoxocephalidæ

Pontharpinia floridana, new species

Figures 3, 4

TYPE LOCALITY.—Off Key Largo, Florida, May, 1904, Wm. Wheeler. Type in The American Museum of Natural History; Cat. No. 6691.

DISTRIBUTION.—There are in the collection of the United States National Museum specimens from Skull Creek, South Carolina, taken by the 'Fish Hawk,' and also from 'Fish Hawk' station 8259, sixteen miles off Sable Island light-house, Georgia, May 3, 1915.

SPECIMENS COLLECTED.—Six; off Key Largo, Florida, May, 1904, Wm. Wheeler.

DESCRIPTION OF MALE.—Head elongate, rostrum slightly spatulate, reaching somewhat beyond the middle of the second joint of antenna 1, lateral margin produced to a rather sharp angle in front of the eyes, postantennal angle quadrate, eyes large and black. Antenna 1: second joint about two-thirds the length of the first; third joint one-half the length of the second; flagellum composed of about ten joints, the first four or five of which carry calceoli. Antenna 2: fourth and fifth joints broad; flagellum reaching nearly the length of the body and carrying calceoli. Mandible with nine spines in spine-row, molar rather low, lacking the triturating surface and tipped with six rather stout spines. Maxilla 1: inner plate tipped with several spines and one plumose seta; outer plate bearing eleven toothed spine-teeth; palp bearing five stout and two slender spines on the oblique apex. Maxillipeds proportioned as figured by Sars for *Phoxocephalus holbölli;* outer plate bearing five spines on inner

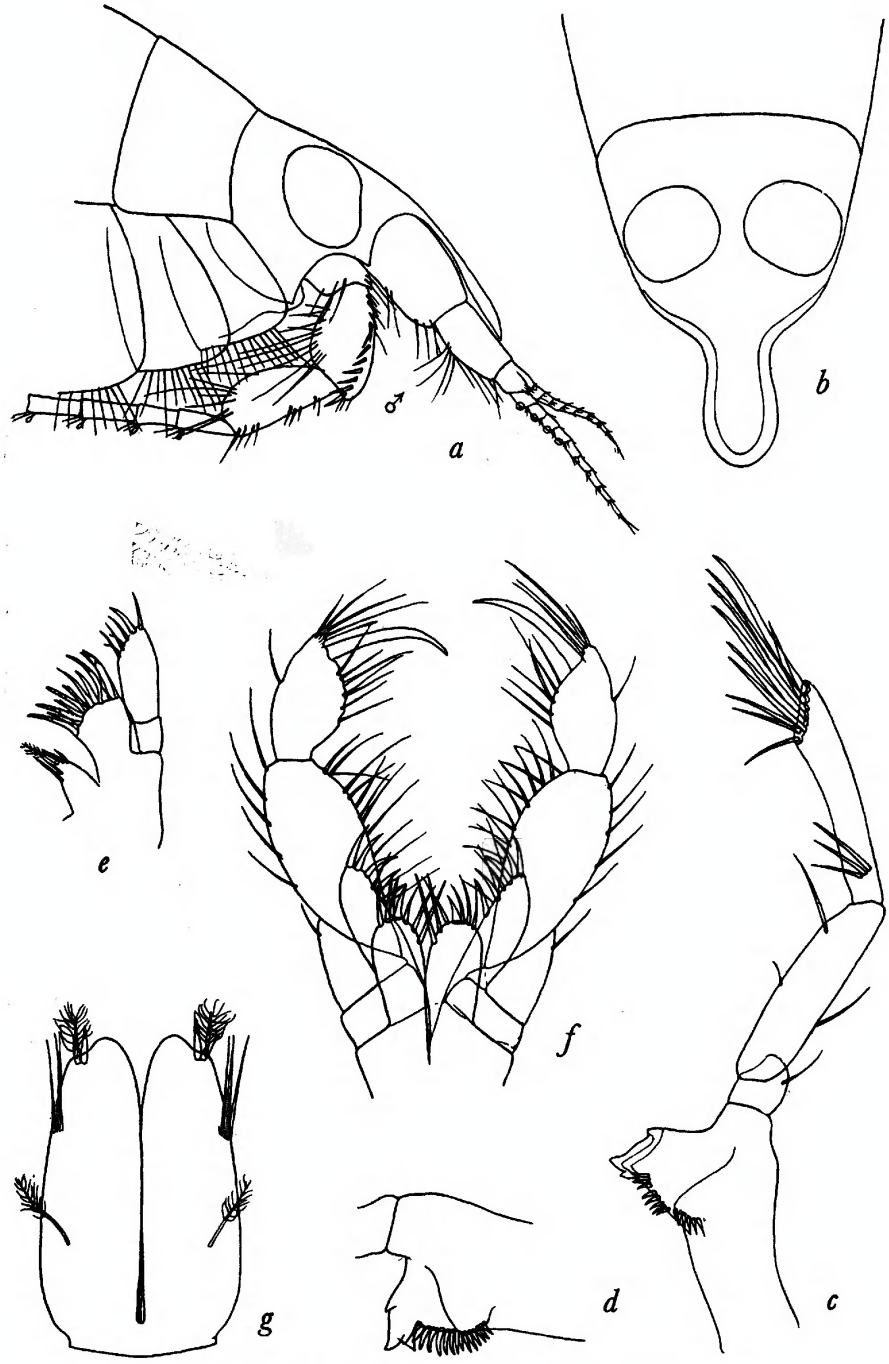


Fig. 3. *Pontharpinia floridana*, new species, male.

a, anterior end of animal; *b*, dorsal view of head; *c* and *d*, right mandible; *e*, maxilla 1; *f*, maxillipeds; *g*, telson.

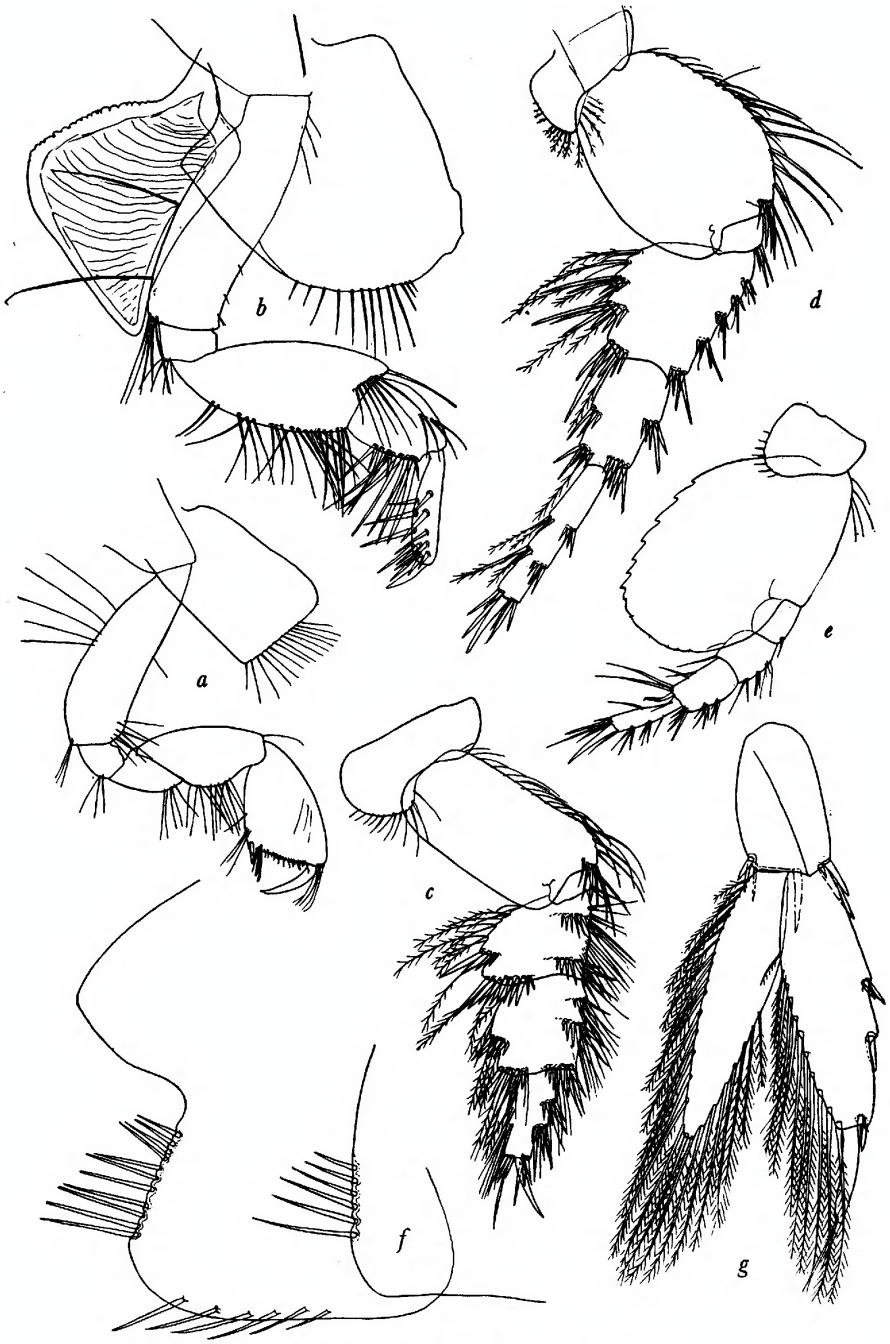


Fig. 4. *Pontharpinia floridana*, new species, male.

a, gnathopod 1; *b*, peræopod 2; *c*, *d*, and *e*, peræopods 3, 4, and 5, drawn on a slightly smaller scale than gnathopod 1 and peræopod 2; *f*, pleon segments 2 and 3; *g*, telson.

margin; inner plate bearing six spines and a long tooth on rounding apex. Gnathopod 1: fifth and sixth joints equal in length; sixth joint, palm oblique, defined by a low protruding angle and a stout spine and armed throughout with rather weak curved spinules; seventh joint fitting palm. Gnathopod 2 like 1 except that the second, third, and fourth joints are slightly longer and the fifth and sixth slightly shorter than in gnathopod 1. Peræopods 1 and 2 alike: fourth joint expanded distally; fifth narrowing distally; sixth slender, slightly longer than fifth, considerably constricted at proximal end; fifth and sixth joints bearing many stout spines on posterior surface; fourth joint bearing groups of slender spines on posterior surface. Peræopod 3: fourth joint expanded quite as much as second; fifth expanded somewhat less than fourth; sixth much narrower than fifth; seventh very slender; fourth, fifth, and sixth bearing many spines and setæ. Peræopod 4: fourth joint much expanded; fifth little expanded; sixth about normal; seventh slender; fourth, fifth, and sixth joints bearing many spines and setæ. Peræopod 5: second joint expanded downward to about the middle of the fifth joint; sixth joint slender and noticeably constricted near the proximal end. Pleon segment 3: lower posterior corner broadly rounded, posterolateral margin and lower margin bearing a row of spines; pleon segment 2 with corner less rounding and fewer spines on lateral margin. Uropod 1 reaching to about the middle of the rami of uropod 3, peduncle without spines on upper outer edge except a single one at distal extremity, about four spines on outer ramus and one on inner in addition to a backward-pointing spine at their apices. Uropod 2 reaching to about the middle of the rami of uropod 1: peduncle with a row of comparatively long spines on upper outer margin; outer ramus bearing four spines in addition to the backward-pointing distal spine. Uropod 3: rami about twice as long as peduncle, expanded, outer bearing two groups of spines on outer margin and a row of long plumose setæ on inner, second joint narrow, about one-third the length of first and bearing two long apical spines, inner ramus a little longer than the first joint of the outer, and bearing long plumose setæ on both margins. Telson extending back about one-fourth the distance along the rami of uropod 3, cleft to base, inner corner of apices rounding, outer corner depressed and bearing two spines and a plumose seta, a group of long spines on outer margin about one-third the distance from the distal end and a plumose seta about one-third the distance from the proximal end.

LENGTH.—Type measures 6 mm., but specimens from Georgia are 8 mm. in length.

Leucothoidæ

Leucothoe spinicarpa (Abildgaard)

Gammarus spinicarpus ABILDGAARD, 1789, O. F. Müller, 'Zool. Dan.,' 3d Ed., III, p. 66, Pl. CXIX, figs. 1–4.

Leucothoe spinicarpa, L. articulosa (error) G. O. SARS, 1892, 'Crustacea of Norway,' I, p. 283, Pl. C; Pl. CI, fig. 1.

Leucothoe spinicarpa SCHELLENBERG, 1931, 'Swedish Antarctic Exped., 1901–1903,' II, No. 6, p. 92.

TYPE LOCALITY.—Northern shore of the island of Zealand.

DISTRIBUTION.—This is a cosmopolitan species and its records include the Arctic and Antarctic regions. It occurs frequently in ascidians.

SPECIMENS COLLECTED.—One; 'Albatross' station 2405, 28° 45′ N., 85° 02′ W., Gulf of Mexico. One; Boca Caya Bay, Florida, March, 1916, W. G. Van Name. Five; Paradones opposite Cayo Carena, six miles south of Cienfuegos, Cuba, June 18, 1918, Barnum Brown.

Œdicerotidæ

Monoculodes nyei, new species[1]

Figure 5

TYPE LOCALITY.—Key West, Florida, 1884, 'Albatross,' electric light, collected by Willard Nye, Jr. Type in the U. S. National Museum; Cat. No. 65458.

DISTRIBUTION.—Eleven specimens of this species were taken by Dr. Waldo L. Schmitt at Villa Bella, Ilha São Sebastião, Brazil, in September, 1925, while travelling under the Walter Rathbone Bacon scholarship of the Smithsonian Institution. There are also specimens from Key West, Florida, in the National Museum Collection, and the specimens dealt with in the present paper are from Key Largo, Florida.

SPECIMENS COLLECTED.—Two; off Key Largo, Florida, May, 1904, Wm. Wheeler.

DESCRIPTION OF MALE.—Head with frontal process very short and blunt and deflexed rather abruptly at a right angle, lateral angle obtuse, but not at all rounding. Eyes large, oval, apparently united above and occupying almost all the frontal process. Antenna 1 very short, the peduncular joints becoming successively shorter, flagellum slightly shorter than peduncle and very plumose, first joint as long as the remaining four combined. Antenna 2: peduncle about two-thirds the length of the flagellum, last joint of peduncle and those of the flagellum armed on upper surface with minute hooked spines. Gnathopod 1 nearly as figured by Sars for *M. longirostris* (Goës)[2] but the lobe of the fifth joint is narrower and proportionately longer. Gnathopod 2 nearly as figured by Sars for *M. carinatus* Bate,[3] but sixth joint becomes slightly narrower distally and the palm is more oblique, the fifth joint terminates in a slightly inward-turning point at the side of which is a single stout spine. Peræopods 1 and 2: sixth joint almost transversely truncate and bearing several groups of long curved spines, dactyl about two-thirds the length of the sixth joint. Peræopods 3 and 4 about normal, dactyl equal in length to sixth joint. Peræopod 5: second joint as broad as long, hind margin almost evenly convex and very slightly lobed at lower corner, from the inside of which spring two long plumose setæ; seventh joint equal in length to sixth, front margin furnished with five or six groups of long, slender, simple setæ, and terminating in two slender spines, one much longer than the other. Uropod 2 extending backward slightly farther than 1 or 3. Telson very slightly emarginate and bearing a plumose setule at either rounded corner.

LENGTH.—4 mm.

The specimen figured is a male collected by Dr. Waldo L. Schmitt at Villa Bella, Ilha São Sebastião, Brazil, in September, 1925.

[1]Named in honor of Mr. Willard Nye, Jr., who was naturalist on the 'Albatross' in 1884, and who collected the first specimens.

[2]'Crustacea of Norway,' I, Pl. CVIII, fig. 3 p^1.

[3]'Crustacea of Norway,' I, Pl. CV, fig. p^2.

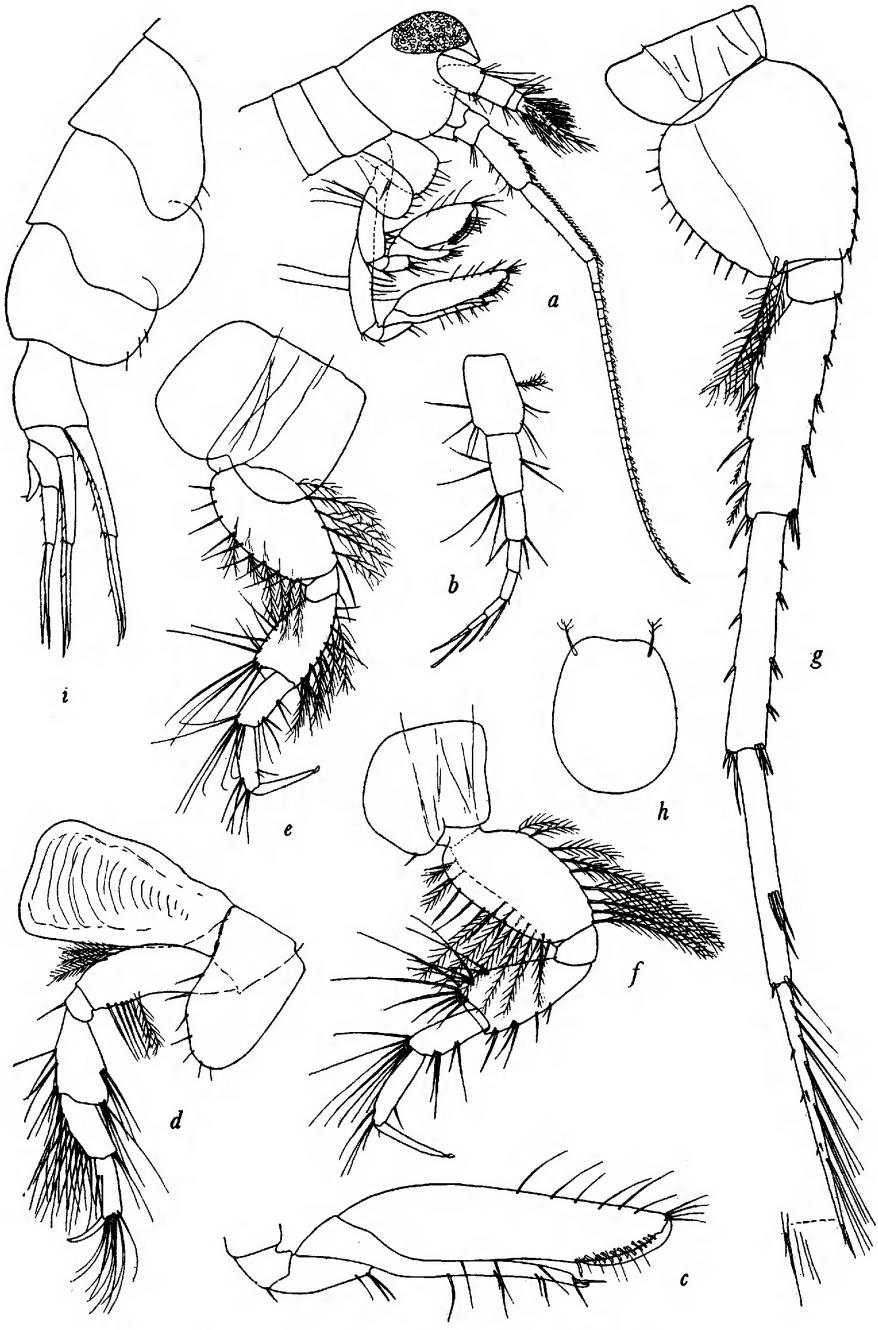


Fig. 5. *Monoculodes nyei*, new species, male.

a, anterior end of animal; *b*, antenna 1, female; *c*, gnathopod 2, much enlarged; *d*, peræopod 1; *e*, peræopod 3; *f*, peræopod 4; *g*, peræopod 5; *h*, telson; *i*, posterior end of animal.

Synopiidæ

Synopia ultramarina Dana

Synopia ultramarina + *S. gracilis* J. D. Dana, 1853 and 1855, 'U. S. Explor. Exped.,' XIII, pt. 2, p. 995; Pl. lxviii, figs. 6*a-h*, 7*a-e*.

Synopia schéeleana Bovallius, 1886, Nova Acta Soc. Sci., Upsal., (3) XIII, No. 9, p. 16, Pl. ii, figs. 22–29.

Synopia ultramarina Schellenberg, 1926, 'Deutsche Südpolar-Exped., 1901–1903,' Die Gammariden, p. 341, Fig. 49 (synonymy); 1929, Bull. of the Mus. Comp. Zoöl., LXIX, No. 9, p. 200. Barnard, 1930, 'British Antarctica ('Terra Nova') Exped., 1910,' Nat. Hist. Report, Zoöl., VIII, No. 4, p. 367.

Type Locality.—Tropical Atlantic, 8°–12° S. and 11°–14° W.

Distribution.—Tropical Atlantic to 41° N. and 18° S.; Gulf of Mexico, off Cuba (specimens in U. S. Nat. Mus. Collection); tropical Pacific; and Indian Ocean.

Specimens Collected.—Sixteen; off Key Largo, Florida, May, 1904, Wm. Wheeler.

Bateidæ

Carinobatea cuspidata Shoemaker

Carinobatea cuspidata Shoemaker, 1926, Proc. U. S. Nat. Mus., LXVIII, Art. 25, p. 21, Figs. 14, 15.

Type Locality.—Saint Thomas, Virgin Islands.

Distribution.—Saint Thomas, Virgin Islands; west coast Florida; Porto Rico.

Specimens Collected.—Three; off Key Largo, Florida, May, 1904, Wm. Wheeler.

Gammaridæ

Pseudoceradocus, new genus

Type Locality.—Georgetown, British Guiana, July 3, 1911, Dr. F. E. Lutz. Fifteen specimens collected.

Generic Characters.—Head without conspicuous rostrum. Side-plates 1–4 equal in depth and deeper than fifth, fourth excavate behind. Branchial vesicles simple and without accessory branchiæ. Marsupial plates narrow. Antenna 1 longer and slenderer than 2, accessory flagellum well developed. Antenna 2: gland-cone very prominent, flagellum short. Upper lip with rounded margin. Lower lip with inner lobes. Mandible: third joint of palp longer than second. Maxilla 1: inner plate large, margin fringed with numerous setæ, outer plate with nine spines, palp armed distally with seven spines and several setæ. Maxilla 2: inner plate fringed along inner margin. Maxillipeds: inner and outer plates rather short, palp very strong and well developed, second and third joints subequal in length. Gnathopods subchelate, gnathopod 2 much stouter than 1. Uropod 1 reaching farther back than 2. Uropod 3 very large, rami subequal and foliaceous. Telson dehiscent, cleft to base.

Pseudoceradocus lutzi, new species[1]

Figures 6, 7

TYPE LOCALITY.—Georgetown, British Guiana. Type in The American Museum of Natural History; Cat. No. 6692.

DESCRIPTION OF MALE.—Head: side-lobes rather flat, separated from lower margin by a deep incision. Eyes much constricted in center, sometimes even being divided into two parts. Antenna 1: peduncle much shorter than flagellum, first joint a little shorter than second, flagellum composed of about thirty-five joints, accessory flagellum reaching beyond sixth joint of primary flagellum and composed of six joints. Antenna 2: peduncle long and stout, fourth and fifth joints equal in length, flagellum composed of about twenty joints and about equal in length to fifth peduncular joint. Mandible: six spines in spine-row, molar very strong and prominent and having on the side nearest the spine-row a stout accessory masticatory process, first joint of palp about two-thirds the length of the second, third joint longer than second, second joint bearing two short distal spines and the third joint two long terminal spines. Maxilla 1: inner plate very broad, margined throughout by plumose setæ and bearing a submarginal row of eight or nine slender spines, outer plate bearing nine stout curved serrate spines, palp with seven terminal short stout spines and a few setæ. Maxilla 2: inner margin of inner plate with a double row of setæ, outer plate with double row of terminal spines. Maxillipeds, inner and outer plates rather short, inner plate reaching to about the middle of outer plate and bearing three terminal spine-teeth, outer plate reaching to one-third the length of the first joint of the palp, upper half of inside margin bearing a row of spine teeth, palp robust, third joint very nearly as long as second, fourth joint nearly as long as third, bearing a terminal nail and seta and a row of very fine setules on inner margin. Lower lip with rather weakly-developed pubescent inner lobes, mandibular processes rather short and rounding. Side-plate 1 not produced forward, lower margin evenly rounding and bearing a spine at the hind corner. Side-plates 2 and 3 also evenly rounding below and bearing a spine at hind corner. Side-plate 4 excavate behind so as to fit the front margin of side-plate 5. Gnathopod 1 slender, second joint about equal in length to the depth of the side-plate, fifth joint longer than sixth with the broadly lobed hind margin furnished with transverse rows of setæ, sixth joint rectangular but slightly narrowing distally, hind margin with transverse rows of serrate spines, palm transverse, very convex and undefined, seventh joint curved to fit palm, very stout at base but becoming very slender toward apex. Gnathopod 2 robust, second joint subequal in length to sixth, fifth joint short, sixth joint strong and stout, widest proximally, hind margin with groups of spines, palm very oblique, defined by a group of stout spines, a stout rounding process bearing about six distal spines adjacent to the hinge of the seventh joint, the area between the process and the defining spines occupied by a soft membranous cushion, seventh joint stout, nearly straight and equaling the palm in length. Peræopods 1 and 2 about as in *Mæra* and *Melita*. Peræopod 3 about the length of peræopod 1. Peræopods 4 and 5 considerably longer than the preceding, 5 the longest. Peræopods 3 to 5: second joint expanded with hind margins serrate. Pleon segments 1 to 3 with lower hind corner very slightly produced. Pleon segment 4 in the young males and the females with two posterodorsal spines, and pleon segment 5 in young males and the females with four posterodorsal spines. These spines become lost or so greatly

[1]Named in honor of Dr. F. E. Lutz of The American Museum of Natural History.

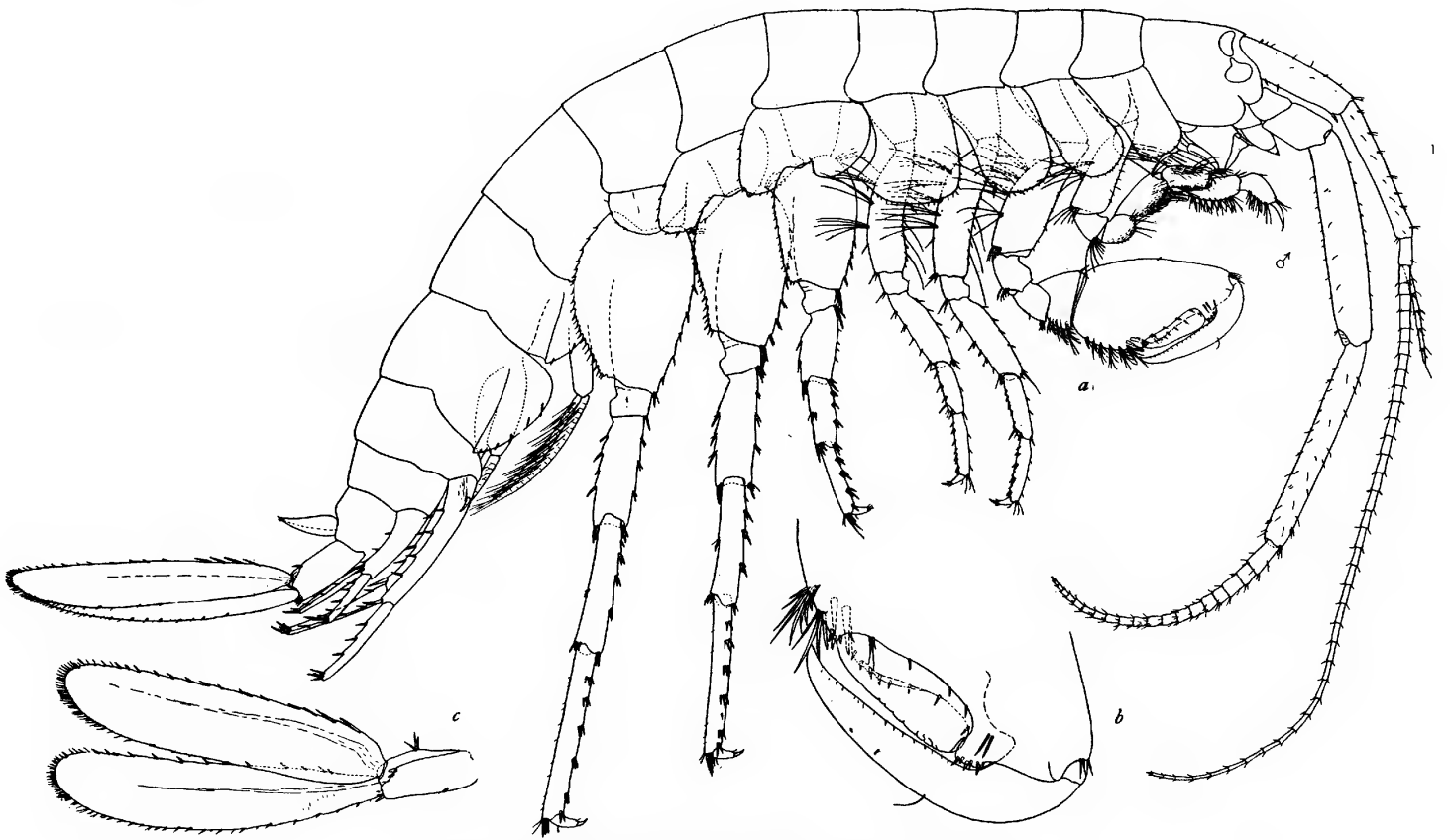


Fig. 6. *Pseudoceradocus lutzi*, new genus and species, male.
a, entire animal; *b*, palm and seventh joint of gnathopod 2, greatly enlarged; *c*, uropod 3.

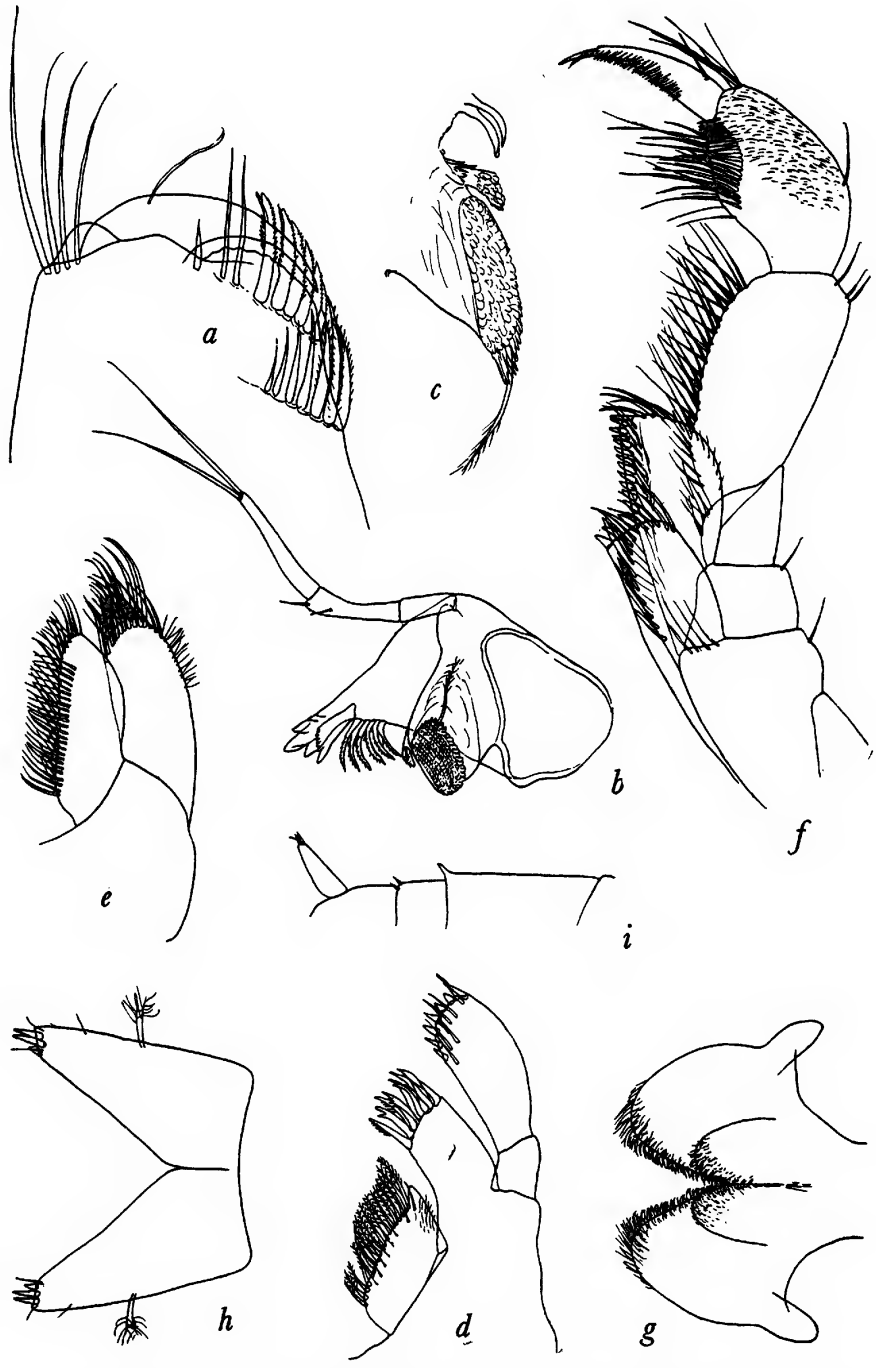


Fig. 7. *Pseudoceradocus lutzi*, new genus and species, male.

a, gnathopod 1, greatly enlarged; *b*, right mandible; *c*, molar of right mandible showing the accessory masticatory process; *d*, maxilla 1; *e*, maxilla 2; *f*, maxilliped; *g*, lower lip; *h*, telson; *i*, pleon of younger male showing the dorsal spines of the fourth and fifth pleon segments.

reduced in the older males as to be scarcely noticeable. Uropod 1: peduncle longer than rami of which the inner is slightly the longer. Uropod 2: peduncle about equal in length to inner ramus which is longer than outer. Uropod 3: peduncle reaching to end of inner ramus of peræopod 2, rami subequal in length, broad, flat, very thin, terminally rounding, edged with short spinules, and three or four times the length of the peduncle. Telson reaching to about the end of peduncle of uropod 3, cleft to base, lobes very widely divergent, each converging to an obliquely truncated apex armed with three short spines and a few setules, lateral margins bearing a group of two plumose setules at center and a short setule near apex. In the younger males and the females these terminal spines appear to be much longer proportionally.

LENGTH.—11 mm.

The females are much like the males in general. In gnathopod 2 the sixth joint is not so large and strong, the palm is evenly and slightly convex and is without either the protuberance near the hinge or the membranous cushion. Uropod 3 is proportionally much shorter. In length the females are several millimeters shorter than the males.

Elasmopus rapax Costa

Figure 8

Elasmopax rapax COSTA, 1853, Rend. Soc. Borbon., (N. Ser.) II, p. 175. G. O. SARS, 1894, 'Crustacea of Norway,' I, p. 521, Pl. CLXXXIII. STEBBING, 1906, 'Das Tierreich,' Amph., I, p. 444. PEARSE, 1912, Proc. U. S. Nat. Mus., XLIII, No. 1936, p. 370. SCHELLENBERG, 1926, 'Deutsche Südpolar-Exped., 1901–1903,' Die Gammariden, p. 364.

TYPE LOCALITY.—Gulf of Naples.

DISTRIBUTION.—North Atlantic; South Atlantic; Mediterranean; Gulf of Mexico; Indian Ocean; Zanzibar; Red Sea; and South Pacific.

SPECIMENS COLLECTED.—One; bay shore of Plantation Key, southeast coast Florida, March 14, 1916, on Mangrove roots, W. G. Van Name. One; Paradones, opposite Cayo Carena, six miles south of Cienfuegos, Cuba, June 18, 1918, Barnum Brown.

The specimen from Florida which appears to be a female is quite typical except that the telson is not cleft, which of course is an abnormality.

Eucrangonyx gracilis (Smith)

Figure 9

Crangonyx gracilis S. I. SMITH, 1871 (and A. E. Verrill), Amer. Journal Science, (3) II, p. 452. SMITH, 1874, Report U. S. Fish Commission for 1872 and 1873, p. 654. FORBES, 1876, Bull. Ill. State Lab. Nat. Hist., No. 1, p. 6. O. P. HAY, 1882, Amer. Nat., XVI, p. 241; HAY, 1891, Proc. Indiana Acad. Sci., p. 150. DELLA VALLE, 1893, Fauna und Flora, Neapel., XX, p. 682. CHILTON, 1894, Trans. Linn. Soc. Lond., (2) VI, p. 218. BLATCHLEY AND HAY, 1896, Rep. Indiana Geol. Survey, p. 206. BANTA, 1907, Carnegie Inst. of Washington, Publication No. 67, p. 78. 'The Fauna of Mayfields Cave.'

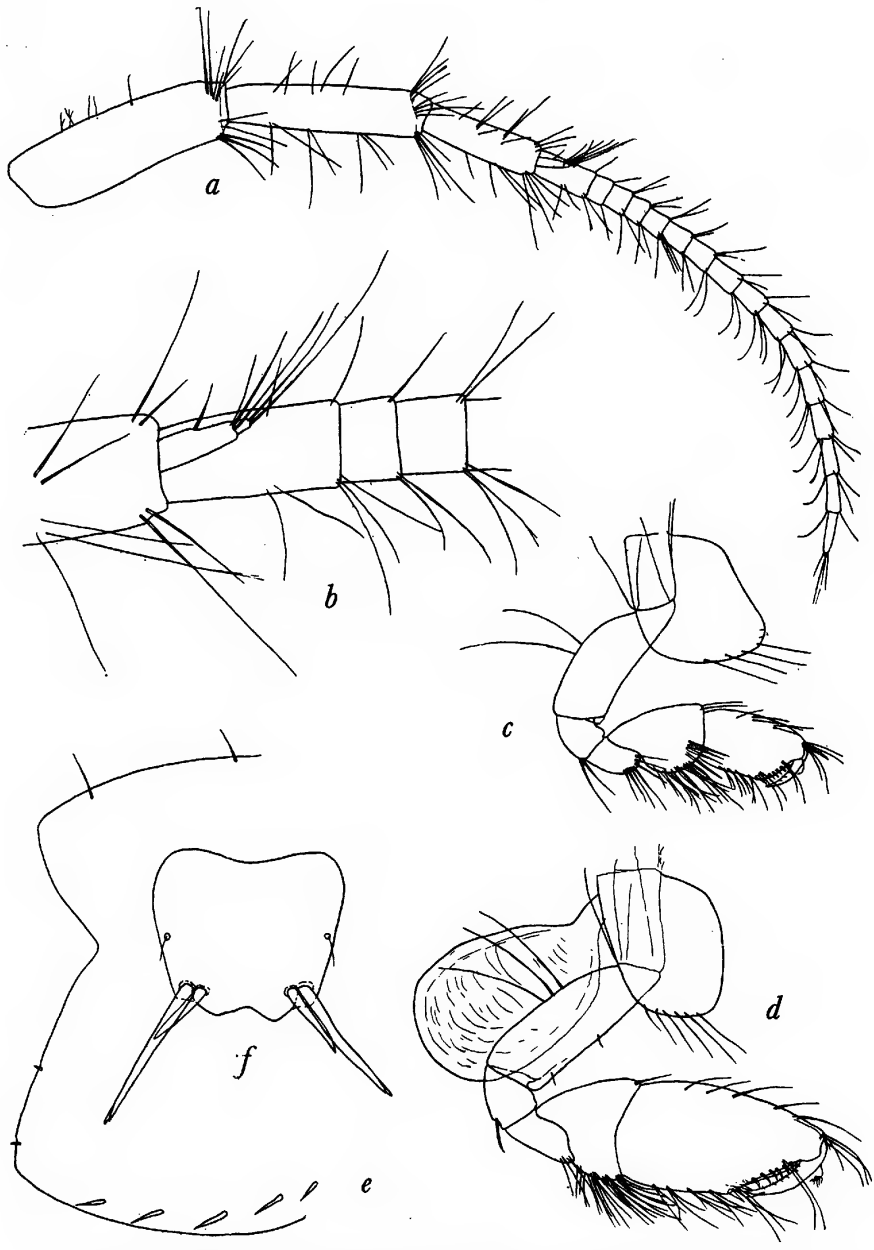


Fig. 8. *Elasmopus rapax* Costa, female from Plantation Key, Florida.

a, antenna 1; *b*, accessory flagellum, greatly enlarged; *c*, gnathopod 1; *d*, gnathopod 2; *e*, pleon segment 3; *f*, telson.

Eucrangonyx gracilis STEBBING, 1899, Trans. Linn. Soc. Lond., VII, pt. 8, p. 423 WECKEL, 1907, Proc. U. S. National Mus., XXXII, No. 1507, p. 32, Fig. 3. NORTON, 1909, Proc. Portland Soc. Nat. Hist., II, p. 249. HUNTSMAN, 1915, Contributions to Canadian Biol., 1911–1914, pt. 2, p. 152, Fig. 4*c*. KUNKEL, 1918, Conn. State Geol. and Nat. Hist. Survey, Bull. No. 26, p. 94, Fig. 20. JOHANSEN, 1925, Canadian Field Naturalist, XXXIX, No. 6, pp. 138–139. CREASER, 1931, Ecology, XII, No. 1, January, p. 244.

TYPE LOCALITY.—Lake Superior.

DISTRIBUTION.—Lake Superior; Lake Huron; Lake Michigan; Georgian Bay, Bond Lake (near Toronto), and Ottawa River, Canada; Maine; Rhode Island; Connecticut; New York; Maryland; District of Columbia; Virginia; North Carolina; Florida; Louisiana; Tennessee; Kentucky; Ohio; Indiana; Illinois; Michigan; Wisconsin; Montana; and Missouri.

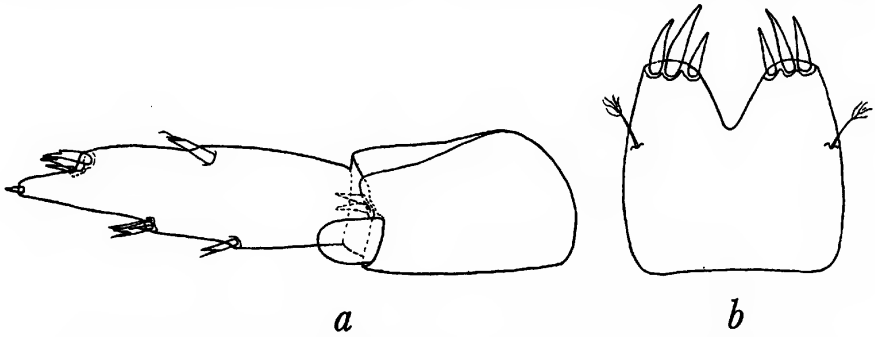


Fig. 9. *Eucrangonyx gracilis* (Smith), specimen from Gainesville, Florida.
a, uropod 3; *b*, telson.

SPECIMENS COLLECTED.—Seven; Gainesville, Florida, September 29, 1914, A. J. Mutchler.

This is the first record of the occurrence of this species in Florida. Many of the above localities are represented by specimens in the collection of the U. S. National Museum.

Talitridæ

Orchestia platensis Kröyer

Orchestia platensis KRÖYER, 1845, Naturh. Tidsskr., (2) I, p. 304, Pl. II, fig. 2. SCHELLENBERG, 1926, 'Deutsche Südpolar Exped., 1901–1903,' Die Gammariden, p. 371. (Synonymy.)

TYPE LOCALITY.—Banks of Rio de la Plata (northwest of Montevideo).

DISTRIBUTION.—Atlantic coast of North and South America from Bay of Fundy to the Plata River, Argentina; Bermuda; Mediterranean; Lake of Tiberias, Palestine; Belgian Congo; Angola; Low Archipelago; Chilka Lake; Hawaiian Islands; Maldive Islands; Seychelles Islands.

SPECIMENS COLLECTED.—One; Portsmouth, Dominica, West Indies, June 25, 1911, from under small stones and débris on upper beach, Dr. R. W. Miner.

Hyale brevipes Chevreux

Figures 10, 11

Hyale brevipes Chevreux, 1901, Mem. Soc. Zool. France, XIV, p. 400, Figs. 15–18. Walker, 1909, Trans. Linn. Soc. Lond., Zool., (2) XII, pt. 4, p. 337. Chilton, 1921, Ann. Mag. Nat. Hist., (9) VIII, p. 117, text-fig.; 1921, Mem. Ind. Mus., Calcutta, V, No. 8, p. 545, text-figs.; 1925, Mem. Asiatic Soc. Bengal, VI, p. 536. Schellenberg, 1928, Trans. Zool. Soc. Lond., XXII, pt. 5, p. 658.

Type Locality.—Seychelles Islands.

Distribution.—Schellenberg gives as the distribution: Red Sea; Seychelles, Maldive Islands; Ceylon; Chilka Lake; and the Talé Sap.

Specimens Collected.—Eighty; Fort de France, Martinique, West Indies, April 2, 1910, P. B. Whelpley. Six; Portsmouth, Dominica, West Indies, June 25, 1911, Dr. R. W. Miner, from under small stones and débris on upper beach. Two; Bridgetown, Barbados, West Indies, March 28, 1910, P. B. Whelpley.

These specimens from the West Indies agree with the description given by Schellenberg for his specimens from the Suez Canal (Trans. Zool. Soc. Lond., XXII, pt. 5, p. 659). Gnathopod 1 of the male bears a very conspicuous stout spine-tooth at the center of the palm on the outside, and a smaller submarginal spine on the inside nearer the rounding corner of the palm. These very characteristic spines are neither mentioned by Chevreux in his description nor shown in his figure. The first and second gnathopods of the female appear to be quite variable in structure. In some specimens they closely resemble those of the male, the first bearing the two prominent palmar spine-teeth as in the male, and the second having the sixth joint similar to that of the male except that the palm is not quite so oblique, thus making the posterior margin proportionally somewhat longer. In other females the first gnathopods are as described by Schellenberg, the sixth joint being nearly rectangular, with the palm nearly transverse and lacking the prominent palmar spine-teeth, but having two smaller spines at the defining angle, the posterior margin bearing a row of serrate spines at the center; the second gnathopods having the sixth joint comparatively small, not as wide as the fifth joint, the posterior margin being sinuous and having a rather prominent notch from which protrude several long slender spines, and on the proximal portion a row of short spines.

The largest males measure 9 mm. in length. *Hyale brevipes* has not heretofore been recorded from the Western Hemisphere.

Hyalella azteca (Saussure)

Amphitoe aztecus Saussure, 1858, Mem. Soc. Genève, XIV, pt. 1, p. 474, Pl. v, fig. 33.

Allorchestes knickerbockeri+*Amphithoë azteca* Bate, 1862, 'Cat. Amphip. Brit. Mus.,' p. 36, Pl. vi, fig. 1; p. 250.

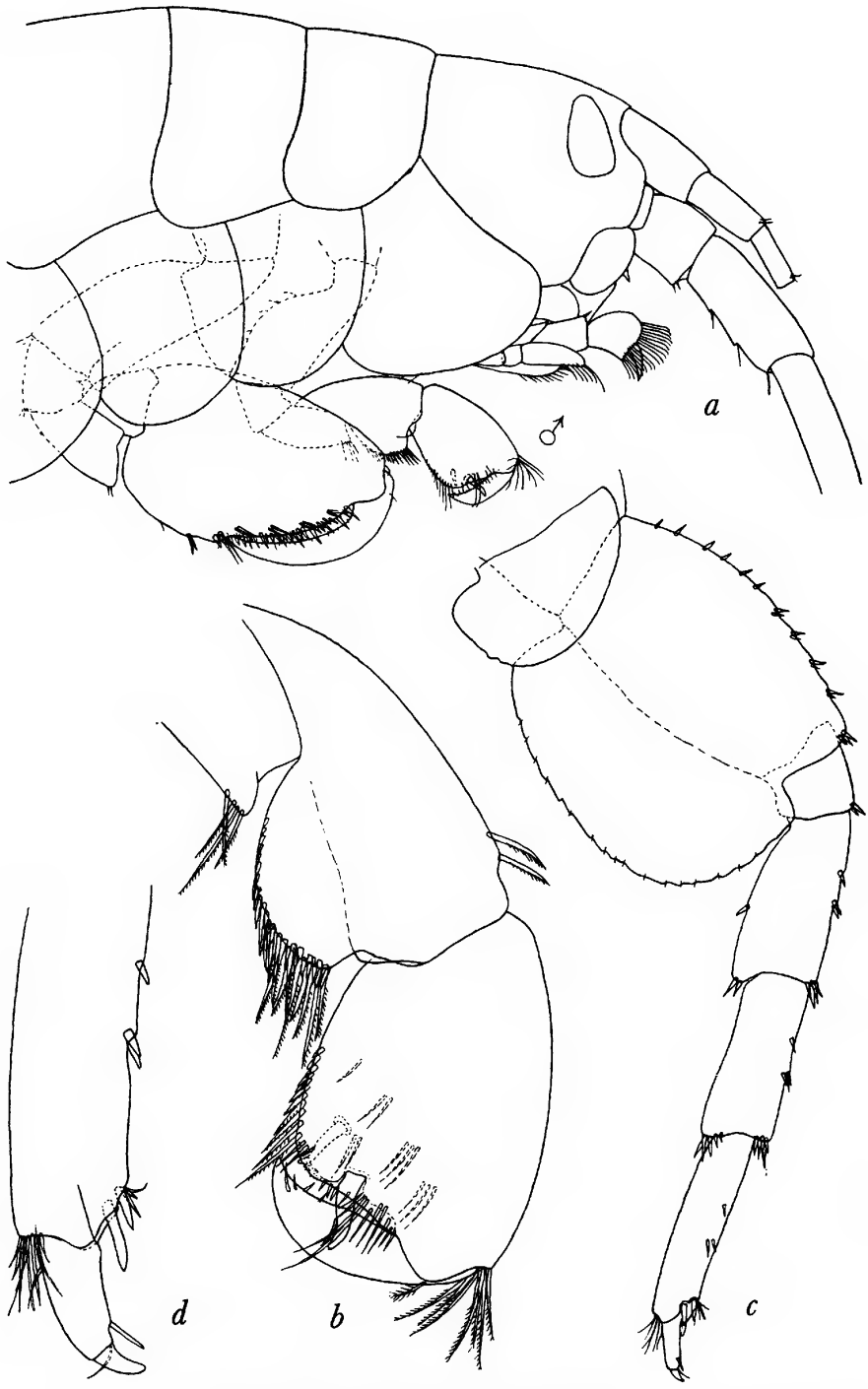


Fig. 10. *Hyale brevipes* Chevreux, male.
a, anterior end of animal; *b*, gnathopod 1; *c*, peræopod 5; *d*, distal end of peræopod 5, greatly enlarged.

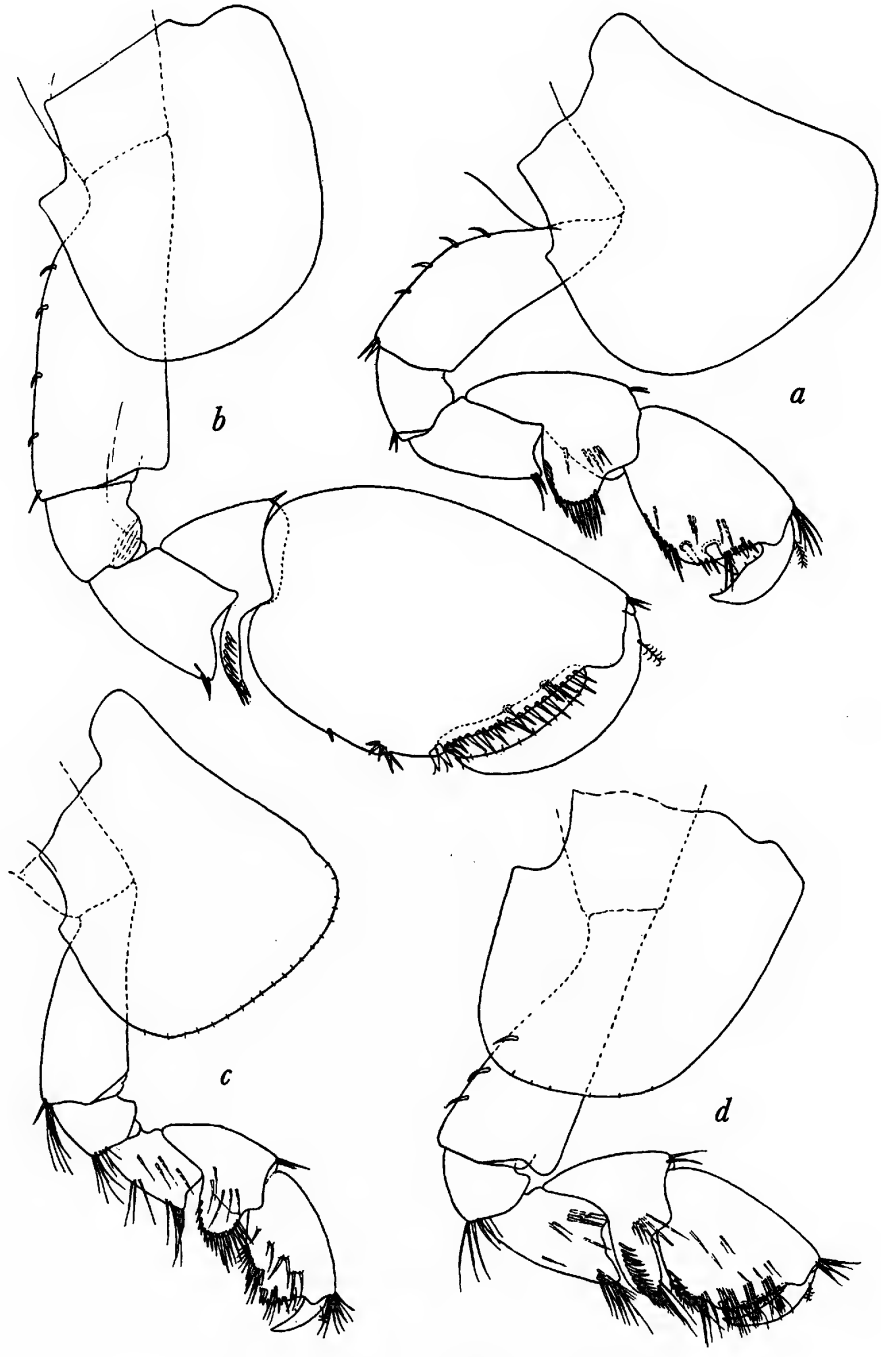


Fig. 11. *Hyale brevipes* Chevreux, female.

a, gnathopod 1 of large specimen; *b*, gnathopod 2 of large specimen; *c*, gnathopod 1 of smaller specimen; *d*, gnathopod 2 of smaller specimen.

Hyalella dentata SMITH, 1874, Rep. of the U. S. Geol. and Geog. Survey of the Territories, (1873), p. 608, Pl. I, figs. 3–6; 1874, Rep. U. S. Fish Comm., II, p. 645, Pl. II, figs. 8–10. FORBES, 1876, Ill. Museum Nat. Hist., Bull. No. 1, p. 5. RATHBUN, 1905, Occasional Papers, Bost. Soc. Nat. Hist., VII, 'Fauna of New England, V,' p. 53.

Hyalella inermis SMITH, 1874, Rep. of the U. S. Geol. and Geog. Survey of the Territories, (1874), p. 609, Pl. I, figs. 1–2.

Allorchestes dentatus FAXON, 1876, Bull. Mus. Harvard, III, p. 373.

Allorchestes dentatus var. *inermis* FAXON, 1876, Bull. Mus. Comp. Zoöl., III, p. 373.

Lockingtonia fluvialis HARFORD, 1877, Proc. Calif. Acad., VII, p. 54.

Hyalella azteca STEBBING, 1888, 'Rep. Voy, "Challenger,"' XXIX, p. 311. STOUT, 1912, First. Ann. Report, Laguna Marine Lab., Pomona College, p. 149, Fig. 84. PEARSE, 1913, Occasional Papers, Mus. Zool., Univ. Mich., No. 1, p. 3. JOHANSEN, 1925, Canadian Field Nat., XXXIX, No. 6, p. 138.

Hyalella faxoni STEBBING, 1903, Proc. U. S. Nat. Mus., XXVI, p. 928.

Allorchestes dentata PAULMIER, 1905, New York State Mus., Bull. 91, Zoöl. 12, p. 152, Fig. 19.

Hyalella knickerbockeri WECKEL, 1907, Proc. U. S. Nat. Mus., XXXII, No. 1507, p. 54, Fig. 15. NORTON, 1909, Proc. Portland Soc. Nat. Hist., II, p. 250. WECKEL, 1910, Proc. U. S. Nat. Mus., XXXVIII, p. 623, Fig. 1. JACKSON, 1912, Bull. Wis. Nat. Hist. Soc., X, Nos. 1–2, p. 49. HUNTSMAN, 1914, Contrib. Canadian Biol., 1911–1914, pt. 2, p. 152, Fig. 4*d*. KUNKEL, 1918, Conn. State Geol. and Nat. Hist. Survey, Bull. 26, p. 129, Fig. 36. SCHELLENBERG, 1931, 'Swedish Antarctic Exped., 1901–1903,' II, No. 6, p. 228, Fig. 116.

Hyalella faxoni + *Hyalella knickerbockeri* PEARSE, 1910, Twelfth Report of Mich. Acad. Sci., p. 73.

Hyalella ornata PEARSE, 1911, Thirteenth Report, Mich. Acad. Sci., p. 109, Fig. 2.

TYPE LOCALITY.—Cistern at Vera Cruz, Mexico.

DISTRIBUTION.—This species inhabits rivers, streams, lakes and stagnant water. It has been recorded from White Horse, Yukon Territory, Alaska; lake forty-eight miles north of Rampart House, Alaska; Hydra Lake, Vancouver Island; Brant's Lake, and Six-mile Lake, Okanagon, British Columbia; Miquelon Lake, Alberta; Last Mt. Lake, Saskatchewan; Oak Lake, Manitoba; Lake Manitoba; near Ottawa, Ontario; Gaspé Peninsula; Charlton Island, James Bay, Hudson Bay; Pembroke Lake, Cape Breton Island; Gamachi Lake and Princeton Lake, Anticosti Island, Province of Quebec; Richibucto, New Brunswick; Grand Lake, Newfoundland; Alexander Bay, Thousand Islands; Lake Superior; Lake Michigan; Lake Ontario; Maine; Massachusetts; Connecticut; New York; New Jersey; Maryland; District of Columbia; Virginia; South Carolina; Florida; Porto Rico; Ohio; Indiana; Illinois; Michigan; Wisconsin; Minnesota; North Dakota; Nebraska; Colorado; Yellowstone National Park; Iowa; Kansas; Arkansas; Montana; Idaho; California; Utah; Nevada; New Mexico; Texas; Ensenada, Lower California; Mexico; Costa Rica; El Salvador; Lake Titicaca, Peru; Montevideo, Uruguay; Patagonia; Punta Arenas, Chile; Tierra del Fuego; and Falkland Islands.

SPECIMENS COLLECTED.—Nine; Titusville, Florida, November 8, 1911, Dr. F. E. Lutz. Fourteen, Laudat, Dominica, West Indies, June 13, 1911, Dr. F. E. Lutz.

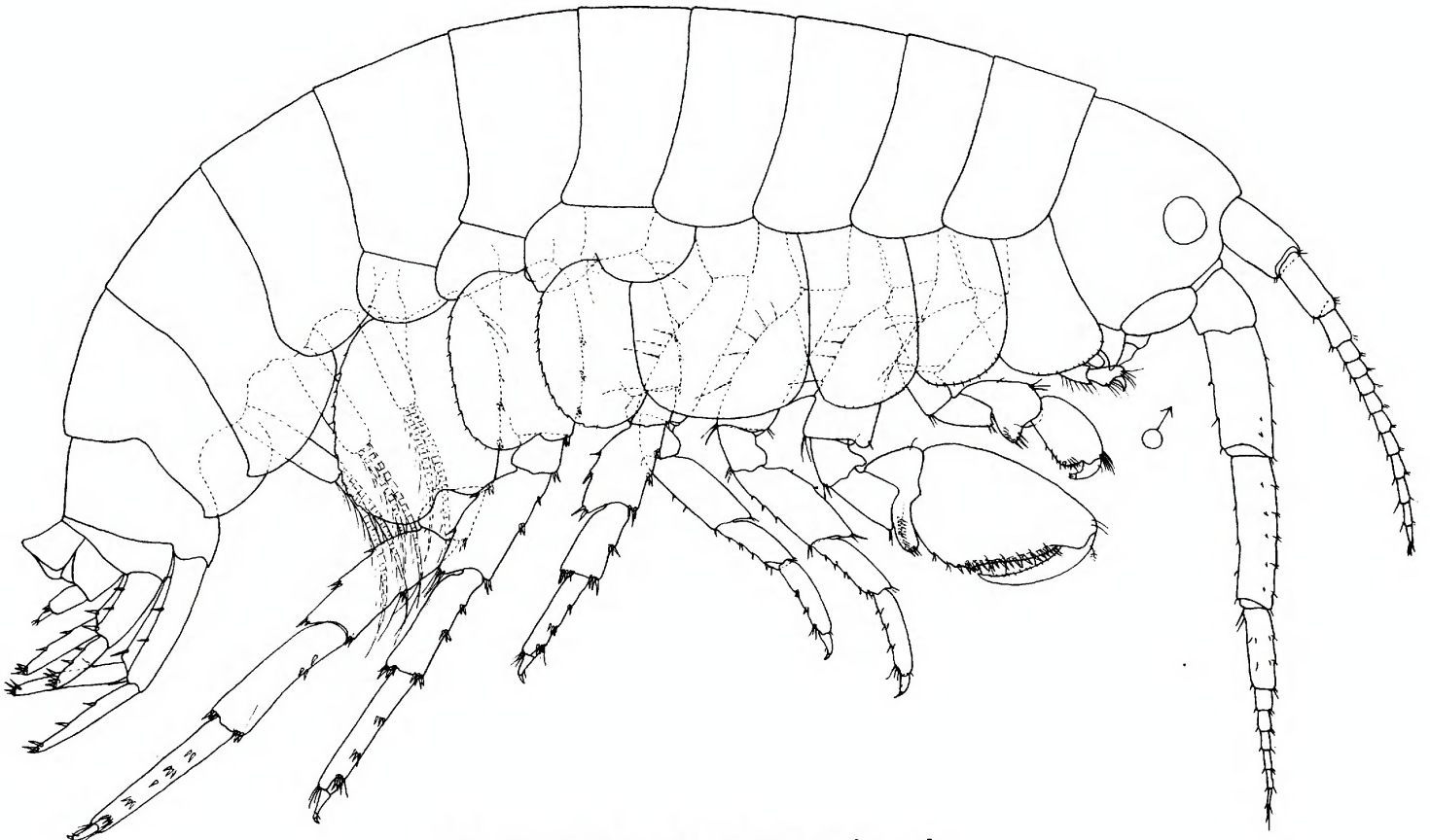


Fig. 12. *Hyalella whelpleyi*, new species, male.

This is a species of very wide distribution and of considerable variation. It has been reported from Alaska to Tierra del Fuego and from California to Newfoundland and Porto Rico. It is now for the first time reported from Dominica, West Indies. The variation is most noticeable in the number of dorsal teeth. The variety *inermis* is without dorsal teeth, while the number varies from one to four in the dentate form.

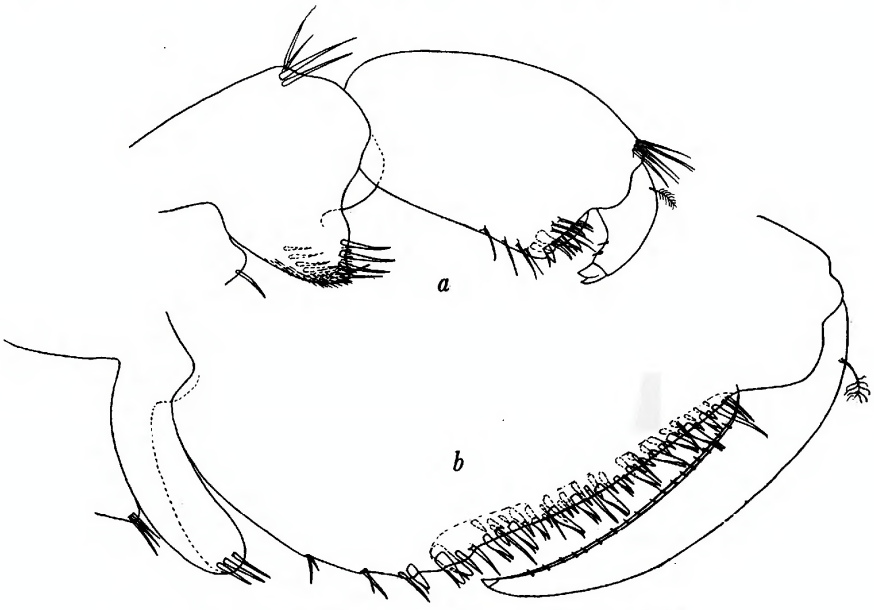


Fig. 13. *Hyalella whelpleyi*, new species, male.
a, gnathopod 1; *b*, gnathopod 2, greatly enlarged.

Hyalella whelpleyi, new species[1]

Figures 12, 13

Type Locality.—Port of Spain, Trinidad, British West Indies, January, 1910, P. B. Whelpley. Type in The American Museum of Natural History; Cat. No. 6693.

Specimens Collected.—Seventeen; Port of Spain, Trinidad, British West Indies, January, 1910, P. B. Whelpley.

Description of Male.—Head: lateral lobe rather shallow, eye small and nearly round. Antenna 1 reaching little beyond peduncle of antenna 2, peduncle shorter than the ten-jointed flagellum. Antenna 2 stout, not half the length of the body, fifth joint of peduncle slightly longer than fourth, flagellum as long as fifth peduncular joint plus about half the length of the fourth, flagellum composed of about ten joints, the first three of which are coalesced. Gland-cone short and inconspicuous. Gnathopod 1: fifth and sixth joints equal in length, fifth with rather narrow hind lobe, sixth

[1]Named in honor of Mr. P. B. Whelpley, the collector.

nearly oval in outline, palm slightly oblique, convex, and defined by a rather stout spine and bearing two similar spines on inner surface of joint just below the defining angle, seventh joint very short and stout and armed with a double-toothed apex. Gnathopod 2 stout, second and third joints each with lower front margin produced into a shallow lobe, sixth joint with palm very oblique and about equal in length to hind margin of joint, defined by two short stout spines but with a scarcely perceptible defining angle, seventh joint equal in length to and exactly fitting palm. Peræopod 1 slightly longer than 2. Peræopods 3–5 increasing consecutively in proportions and length. Accessory branchiæ absent. Pleon segments 2 and 3 produced below into very shallow upturned points. Uropod 1 extending farther back than 2 or 3. Uropod 3: peduncle about twice as long as the very short ramus. Telson very prominent and reaching back as far as the proximal end of the peduncle of uropod 3, apex evenly rounding and bearing two minute setules.

LENGTH.—6 mm.

FEMALE.—Antenna 2 shorter and weaker in comparison with antenna 1; flagellum about equal in length to peduncle and composed of nine joints, none of which are coalesced. Gnathopods very similar to those of male but smaller and weaker.

LENGTH.—5 mm.

CYAMIDEA

Cyamidæ

Cyamus species

SPECIMENS COLLECTED.—One; Fort de France, Martinique, West Indies, April 2, 1910, P. B. Whelpley.

This specimen is very young and in very poor condition so that specific identification is not possible.